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ABSTRACT

Intended for teachers and parents, the handbook provides suggestions for diagnosis and remediation of the learning disability dysgraphia (difficulty with handwriting). The seven chapters have the following titles and sample subtopics: (1) "The Student with a Learning Disability" (what causes dysgraphia, the Gerstmann Syndrome); (2) "Parents' Perspective" (early warning signs, do's and don'ts); (3) "Diagnosis and Evaluation" (basic rights of parents and children, evaluation tools, sources of help); (4) "Teacher's Perspective" (recognizing the student with a learning disability); (5) "Developing a Teaching Program" (program planning, teaching basic skills, reinforcement techniques); (6) "Not Working to Ability"? (retention and the fun of writing); and (7) "Creating Successes" (college or vocational training, value of praise, and a case study). (DB)

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A Handbook for Teachers and Parents

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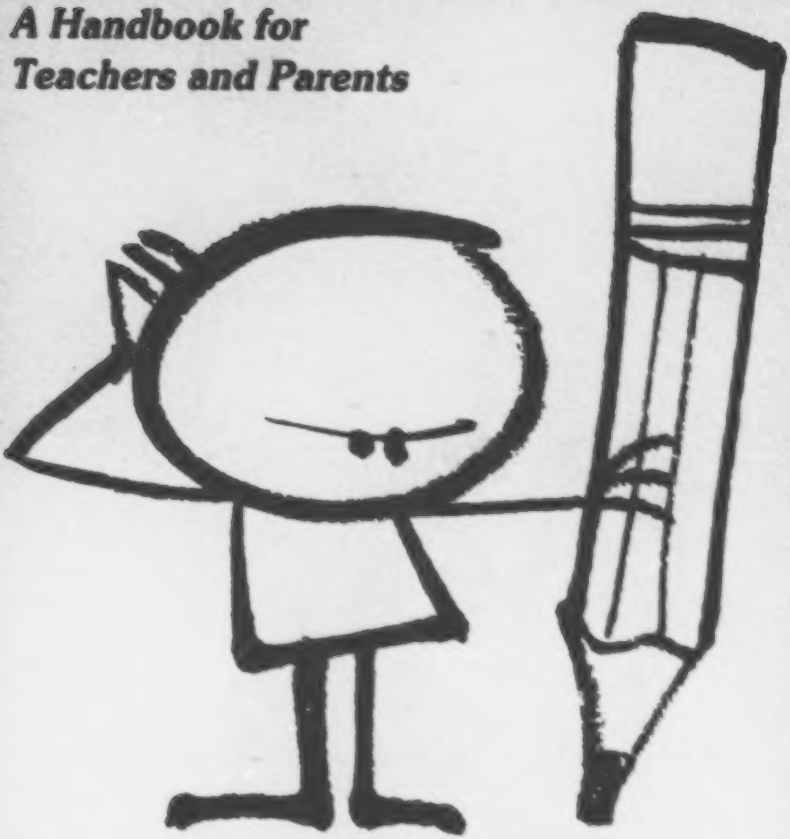

DYSGRAPHIA

Why Johnny Can't Write

Diane Walton Cavey

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DYSGRAPHIA

Why Johnny Can't Write

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A Handbook for Teachers and Parents

DIANE WALTON CAVEY

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DYSGRAPHIA:
Why Johnny Can't Write

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This book is dedicated to my most faithful supporters, Alan and Alison, who were as involved in this project as I. Thanks to Mom, Dad, and Lynne for believing in me. With the love and support of a caring family, all obstacles can be overcome.

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CHAPTER 1

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The Student with a Learning Disability

* * *
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"Does not use time wisely."
"Not working to ability."
"Homework incomplete."
"Does not follow directions."

Sound familiar? These comments on school progress reports are discouraging to students and their parents. They are even more distressing if the students honestly feel that they are working hard and doing as well as they can.

It is estimated that 10 percent of the elementary school population (almost 2 million) has learning disabilities serious enough to require special remediation (Richards, A., 1982). Learning disabilities cover a broad spectrum of problems which manifest themselves in many different ways.

Learning disabilities in children have mystified parents and teachers for years. Some students may mistakenly be considered to be hearing impaired or mentally retarded. As their frustration and

anger increase, they may be labeled emotionally disturbed. Even more perplexing, a child may be able to discuss complicated concepts clearly, yet can't write a simple sentence.

A lack of competence in reading and writing can lead to disaster for an individual in our society. It causes feelings of frustration, inferiority, instability, and often rebellious acting out. If the problem is not identified and provided for in terms of remedial education, the child may develop emotional disturbances and ultimately present delinquency problems. It is estimated that from 70 to 80 percent of juvenile delinquents with average or above average intelligence have learning disabilities (Rowan, 1977).

Often, simply diagnosing the problem as a learning disability is an important turning point. Taking the blame off the child may help immeasurably with his or her feelings of self-esteem.

One learning dysfunction which may be seen alone or as part of a larger syndrome is dysgraphia. It is with this and closely allied problems that this book will deal.

WHAT IS DYSGRAPHIA?

Dysgraphia is a form of agraphia, the total inability to write. It is seen in children who are slow to develop writing skills and in adults who acquire the syndrome due to brain injury.

Children with this type of involvement have neither a visual nor a motor defect, but they cannot transduce visual information to the motor system. Some are unable to copy letters, words, or numbers. Many with dysgraphia overcompensate for their visual-motor deficit by developing superior auditory skills, good spoken language, and reading ability.

There are many degrees of dysgraphia. Those with the greatest involvement are unable to hold a pencil properly or draw a straight line. Some can draw a simple design but cannot copy figures that require a series of complete, reciprocal movements.

Older children with dysgraphia sometimes reproduce a legible word but distort the sequence of movements when they write. They know what the letters and the words look like but do not know the

sequence of movements used in order to write them. It is essential to watch children with dysgraphia write because their performances give an indication of the deficiencies.

The degree of efficiency among these children varies as greatly as do the features of their particular syndromes. Some are unable to discriminate between upper case and lower case letters. There may be spatial disorientation and spelling and punctuation errors, although often these children can accurately perform verbally. Many times a child can read and comprehend but may or may not be able to read aloud. Others may have poor comprehension because of the inability to form visual images and an orderly sequence of events in their minds. Consequently, information read becomes garbled and results in minimal comprehension.

WHAT CAUSES DYSGRAPHIA?

Dysgraphia is one aspect of a larger syndrome affecting some children known as developmental Gerstmann Syndrome. It was first recognized over 50 years ago in adults suffering localized brain damage by Dr. Josef Gerstmann, an Austrian neurologist. It was later discovered that children suffering no brain damage exhibited the same symptoms as adults who were brain injured. The cause in children may be heredity, nutrition, or chemical factors. Prenatal influences, a difficult birth, or a high fever may be a contributing factor. Most often the causes are unknown and probably unimportant. The important issue is to recognize the problem and develop an effective method of dealing with it. In children, the problem does not respond well to remediation but does tend to improve as they mature.

GERSTMANN SYNDROME

Typically, those with Gerstmann Syndrome develop problems in some or all of the following areas: numerical manipulation (dyscalculia), handwriting (dysgraphia), directionality (right-left discrimi-

nation), finger agnosia (inability to name the fingers and indicate named fingers) (Richards, J. H., 1982).

Unlike children with other learning disabilities, those with Gerstmann Syndrome do not become obvious until midway through elementary school. As the demands for written performance increase, these students begin falling behind and may become nervous and depressed, and lack the motivation to do assignments. Each child responds differently, but the alert and sensitive teacher will respond to the change in behavior and attitude.

Difficulty with cursive writing (written script) is most apparent. The child has difficulty manipulating the pencil and after much effort produces a messy, unintelligible paper. Most children with dysgraphia are better able to manage printing than cursive writing.

The type and degree of dysgraphia tends to vary, depending on the involvement of the other Gerstmann Syndrome problem areas. Students with ordering difficulties have great difficulty with written expression. Their oral expressions may indicate good vocabularies and creative thoughts. Their written accounts will be very short, concise, and non-descriptive. Obviously, these students hate to write.

Students with spatial issues hold the pencil too tightly and produce a barely legible, run-together script.

Regardless of the degree of dysfunction, the students with dysgraphia expend twice the energy for half the reward of their classmates. Writing is tedious and laborious and is not an effective way to communicate. Motivation is very important, as are rewards, for even the smallest successes.

With sufficient time, motivation, and a worthwhile reward, the child with dysgraphia will occasionally produce an exemplary paper. This leads parents and the teacher to believe that the unacceptable work is the result of laziness or carelessness. It is true that handwriting improves with practice, but practice only occurs when the child feels the effort is worth the reward. "There is a time-energy-reward ratio that is crucial in understanding the dysgraphic child and his apparent ability to produce an occasionally satisfactory written product" (Richards, J. H., 1982).

Rather than stressing handwriting skills, it is more useful to allow alternatives for expression. Such things as typewriting, tape recording, and dictating are useful and will be discussed in a later section.

In addition to handwriting problems, the student may have trouble with math calculations (dyscalculia). The inability to align numbers on the page for computation is part of a greater problem of how the child relates physically to the environment. He or she may be clumsy, bump into things, and fall down.

The presenting of ideas in a sequential, logical manner is difficult. Some students can perform math computations if the problems are presented in an orderly and structured fashion. These same students may have no idea what process to follow in solving a "story problem." Other students may understand the process clearly but have problems with computational ability. Using lined or graph paper helps them to keep their columns straight for purposes of adding, subtracting, borrowing, and carrying.

The degree of right-left discrimination ability is an individual matter. Children with continuing difficulties can be given verbal reminders and reinforcements. With help and understanding, most will develop their own systems of functioning in spite of this problem.

CHAPTER 2

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Parents' Perspective

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IS MY CHILD "NORMAL"?

Very early in life, most children learn to make visual-motor associations. They scribble on paper and discover that they can produce a particular pattern by moving their arms in a certain way. By changing the movement, they can change the pattern. With both visual and muscle memory, they can repeat the image. As they mature, they perceive how complex lines and figures fit together and thus learn to draw and to write. When they see a figure, they know that if they make a series of movements in a certain sequence, they can produce a specific pattern.

Children with dysgraphia cannot make these associations or profit from similar experiences; therefore they cannot write efficiently. Although dysgraphia impedes the ability to convey ideas, it is different from a language problem, which affects the ability to organize and express ideas clearly. A writing disability is frequently encountered as an isolated disorder.

In normal children, processes develop in an orderly pattern. By about age six, they are ready to begin to write. They have devel-

oped the visual and auditory discrimination required for reading and the visual-motor integration necessary for forming letters. They have cognitive and language functions necessary for selecting and organizing words into simple sentences. With maturity and instruction, the thoughts which they are able to express become increasingly abstract, and the sentence usage becomes more complete.

With maturation and proper instruction, the average child learns to write. Children with learning disabilities often fail to acquire written language in spite of normal intelligence and above-average school opportunities. It is important to remember that the child with dysgraphia is not retarded. Emotional and physical disturbances are not a primary factor. Cultural deprivation and environmental disadvantage are not major contributing elements. The actual basis for the failure to develop writing skills depends upon the nature of the disorder and should be evaluated. Although there are differences in the growth patterns of normal children, those with learning disabilities often have a much greater degree of variability in performance.

Children with problems in spoken language also usually have disturbances in written language. Those with oral syntax disorders tend to write the way they speak because they have not acquired the correct grammatical structure for either form. Typically, they omit words or word endings, use improper verb tenses and pronouns, or distort the order of words within the sentence.

Parents may notice early in the child's life a general clumsiness, often affecting acquisition of skills such as hopping, skipping, bicycle riding, buttoning buttons, and tying shoe laces. Sitting and walking also may be slightly delayed.

The child with dysgraphia looks normal but deviates enough to be of major concern to both parents and teachers. Parents often make the rounds of doctors, medical clinics, social service agencies, and psychologists before the problem is identified. Unfortunately, too few medical professionals are aware of the problem and its ensuing educational, social, and personal manifestations. The child's behavior confounds parents, friends, and teachers who describe the

child as stubborn, lazy, immature, and exasperating. The child becomes confused and defensive against this judgment and may be labeled as being mentally retarded, being emotionally disturbed, or having a behavior problem.

Characteristically, children with neurogenic learning disturbances relate well with other children and present no serious adjustment problems in the home. In school their primary difficulty usually is that of academic achievement. When sympathetically understood and properly taught, children with learning disabilities want to learn and present no unusual problems of motivation. If they are not identified and provided for in terms of appropriate education, they may develop emotional disturbances and then present problems of delinquency and even of mental illness.

Fortunately, many children can go undetected by the school system for 10 years or more without developing the symptomatology commonly associated with emotional disturbances.

Professionals who deal with children with dysgraphia have noted that handwriting difficulties are usually outgrown by the time the child is 12 or 13. With sympathetic parenting and teaching, a child will survive slow handwriting development with few or no emotional scars.

Our concern with the child with a learning disability, as with the student who is normal, is not only with academics but also with the attainment of social maturity—the ability to communicate, to care for oneself, to be successfully employed, and to become independent and self-supporting. "There is only one subject matter for education, and this is Life in all of its manifestations" (Whitehead, 1929).

EARLY WARNING SIGNS

The following problems are experienced by many children during various stages of their development. However, if your child frequently exhibits several symptoms as he or she matures, there is reason to consult a specialist for a complete diagnosis.

Problems Most Noted in Younger Children

Behavior

- Are distractible, impulsive, and hyperactive, and have short attention spans.
- Have low frustration levels and overreact.
- Relate poorly to other children.
- Are poorly coordinated and are accident prone.
- Have difficulty with balance (hopping, skipping).
- Have difficulty cutting, coloring, writing.

Speech

- Exhibit delayed or immature speech.
- Have difficulty finding the right word or forming sentences.

Memory

- Have difficulty naming familiar people or things and recalling events.
- Have poor concentration.
- Are unable to say the letters of the alphabet or days of the week in correct order.
- Are unable to follow directions with multiple steps.

Time and Space

- Are perplexed by concepts such as "before" and "after."
- Cannot judge size and space relationships well.
- Do not allow enough time to complete work.

School Work

- Reverse letters and numbers, which leads to problems in reading, writing, spelling, and math.
- Cannot copy well from chalkboard.

- Overall school performance poorer than what would be expected from obvious alertness.

Problems Most Noted in Older Children

- Have notable difficulty with reading, composition, penmanship, spelling, and/or math.
- Do not recall oral assignments and cannot copy written assignments from the board.
- Adopt masks of indifference or apathy.
- Are obstinate, even hostile, and refuse to do work. Often express anger toward teachers (Silberman, 1985).

DO'S AND DON'TS FOR PARENTS AND TEACHERS

Following are some hints that may be helpful to parents and teachers when dealing with children or students with learning disabilities.

- Don't do their work or insist on helping if they don't want help.
- Do help them with homework by reading the assignments to them and correcting their spelling, but only if they wish you to do so.
- Don't embarrass them, call them lazy, or discourage them, either privately or publicly.
- Do sustain a structured but warm atmosphere. Handle consistently—they need to know what is expected of them. Their behavior problems are usually the result of frustrations, not the cause of it.
- Don't excuse them from normal responsibilities or normal tasks which they can do reasonably well.
- Do remember that "careless" errors are really indications of their learning problems, not laziness.

- Do provide praise when they have earned it, even though there is only a small gain in behavior or learning (Schoonover, 1983).

CHAPTER 3

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Diagnosis and Evaluation

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GETTING HELP

The single most important factor in planning for a child with a learning disability is an intensive diagnostic study. Without this, the educational plan may be too general or inappropriate. The diagnostic study should include an evaluation of sensory acuity; intelligence; language (spoken, read, written); motor function; educational achievement; emotional status; and social maturity. In addition, a physical examination is in order. Many children benefit from proper medical attention.

Federal and state laws now allow, free of charge, a diagnostic evaluation for every student. The laws, the test instruments, and the expertise of teachers, psychologists, doctors, and specialists in learning disabilities have begun to brighten the educational future of children with a learning impairment.

State and federal courts have defined further who is entitled to an education and the due process to which every child and parent is entitled.

BASIC RIGHTS OF PARENTS AND THEIR CHILDREN

- All children are entitled to an appropriate education and an education in the least restrictive environment possible.
- Parents have the right to appeal a decision made to alter their child's educational program.
- Parents have the right to review and use in their appeal all information used by the school to make the decision.
- Parents have the right to have a neutral party decide on the most appropriate program for their child.
- Parents have the right to have the benefits of a special program specified and evaluated.
- Educational services must be available to all children, including those who have disabilities and regardless of the severity of the disabilities (Schoonover, 1976).

EVALUATION TOOLS

A commonly used diagnostic test is the Weschler Intelligence Scale for Children (WISC). It is a measure of general information, comprehension, vocabulary, mathematics, reasoning, and memory. The total score is less important than specific information gained from the test.

The Bender-Gestalt Test is used to determine the child's ability to copy a variety of figures. The Woodcock-Johnson Psychoeducational Battery is a measure of perceptual speed. In making a diagnosis of dysgraphia, it is useful for the examiner to determine at what point the difficulty lies for the child—input, processing, or output. In a case of pure dysgraphia, the individual has no difficulty with the input of information or with the processing of it. The problems lie strictly with the writing of the information.

The Picture Story Language Test was devised for the study of the development and disorders of written language. This scale makes it possible to objectively appraise facility with the written

word. It is of value to psychologists and educators in assessing language disorders in children and adults as well as in determining directions for remediation.

WHO CAN HELP?

Pediatricians are interested in the developmental processes of children and may be able to help in making an assessment. Other professionals who may be trained in spotting learning disabilities and be aware of dysgraphia are pediatric neurologists and neuropsychologists (rather than clinical psychologists). A university medical clinic might be able to diagnose a learning dysfunction. Educational psychologists in private practice may also be equipped to make an evaluation. The local or state association for children with learning disabilities can usually secure information regarding agencies and persons available in a given area and what services to expect.

The educational decisions made must be based on the efforts of an educational team that collects and uses all appropriate information. It should not be based on a single test. Seeking help and gaining insight into the nature of the child's learning problems are imperative if the child is to mature both educationally and emotionally.

PUBLICATIONS AND RESOURCES

Several publications are available which will be of interest to the teachers and parents of a learning disabled child.

1. ∴ *Minimal Brain Dysfunction in Children: Terminology and Identification*, Phase One. Public Health Services, Publ. No. 1415, $1.00.

   ∴ *Minimal Brain Dysfunction in Children: Educational, Medical and Health Related Services*, Phase Two. Public Health Services, Publ. No. 2015, $1.00.

⁂ *Central Processing Dysfunction in Children: A Review of Research*, Phase Three. Monograph No. 9, $1.25.

Order from:

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

2. Academic Therapy Publications
1543 Fifth Avenue
San Rafael, CA 94901

⁂ This is the largest publisher of books exclusively on learning disabilities. Quarterly journal—Academic Therapy, $2.00 single—$6.00 yearly.

3. Journal of Learning Disabilities
5 North Wabash Avenue
Chicago, IL 60602

4. *I Can Do.* A handwriting series for children with special needs.

Free catalog:

Zaner-Bloser
612 North Park Street
Columbus, OH 43215

5. *A Word or Two About Learning Disabilities.* Academic Therapy Publications, 1973

6. *A Parent's Guide to Minimal Brain Dysfunction*, 1974
CIBA Pharmaceutical
Summit, NJ 07901

7. Association for Children with Learning Disabilities
4156 Library Road
Pittsburgh, PA 15234

8. Foundation for Children with Learning Disabilities (FCLD)
99 Park Avenue
New York, NY 10016

CHAPTER 4

Teacher's Perspective

RECOGNIZING THE STUDENT WITH A LEARNING DISABILITY

Ten percent of the children in public schools nationwide have learning disorders. Of these, nearly 2 percent enter college.

In a typical school classroom of 25 students, there are likely to be from 1 to 5 members who have a learning disability. At least one of these has dysgraphia. These students are, by definition, of average or above average intelligence with adequate sensory acuity; however, they are achieving considerably less than the composite of their IQ and educational opportunities would predict. They also tend to have other characteristics in common.

Characteristics

Hyperactivity

- Restless, fidgety, and unable to sit still.

Hypoactivity

- Listless, motionless, and may go unnoticed in class.

Lack of Motivation

- Probably the result of difficulty in learning.

Overattention

- "Attention fixation"—focus on one thing to the total exclusion of all else.

Perceptual Disorders

- Disorders of visual, auditory, tactile, or kinesthetic perception.

Lack of Coordination

- Slow to catch, throw, skip, and run. Writing and fine motor skills are hard to master.

The teacher may first notice the child with dysgraphia in third or fourth grade as being depressed and turning in a minimum of written work. Behavior changes may be noted. The child may appear nervous and unhappy. How the child responds to the inability to keep up with the requirements of the classroom is a completely individual matter. Each child will react according to his or her own personality. It is useful to note that over 75 percent of children with dysgraphia are male, although the reasons for this are not yet understood.

Figure 4-1 is an example of writing by a 10-year-old boy. There is difficulty in the spacing of the letters and in general neatness. Grammatical and syntax errors are also evident (Myklebust, 1967).

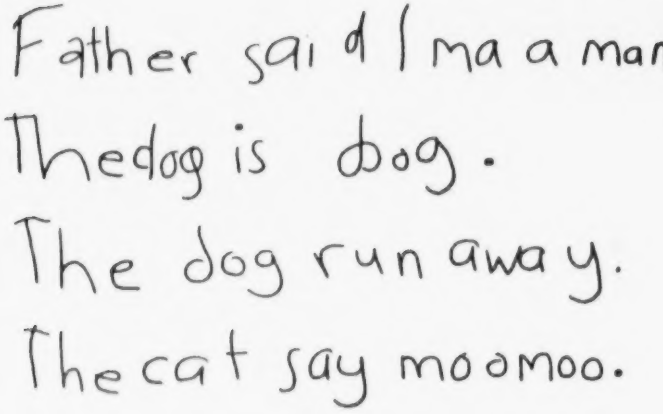
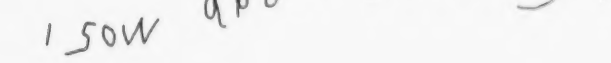


Figure 4-1.

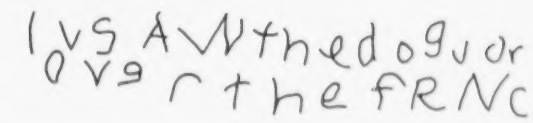
Figure 4-2 is an example of writing done by the same child at intervals from age 5 to age 12. Note the difficulty with letter formation, spacing, spelling, punctuation, and capitalization. The sentence produced at age 12 is legible, though not what one might expect from a 12-year-old student.

In children with dysgraphia, nonverbal visual-motor functions are also often disturbed. They cannot transduce visual information to the motor system or imitate what they see. They may have difficulty or be unable to tie their shoes, open a bottle, or follow a sequence of movements in a game. Copying letters or visual symbols is difficult because the symbol provides no clue to the movement patterns they should use. Children can watch and possibly imitate when their fathers use hammers because they have an opportunity to observe sequence of movement, but when they look at a written figure, they have no idea how to make it. Even if they watch someone write, they rarely have the advantage of seeing the entire sequence and direction of movements inasmuch as the letters may be partially covered by the writer's fingers or the movements too rapid to follow.

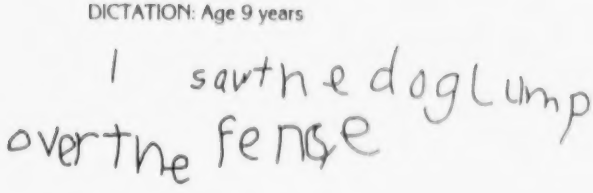
DICTATION: Age 5 years



DICTATION: Age 7 years



DICTATION: Age 9 years



DICTATION: Age 11 years

DICTATION: Age 12 years

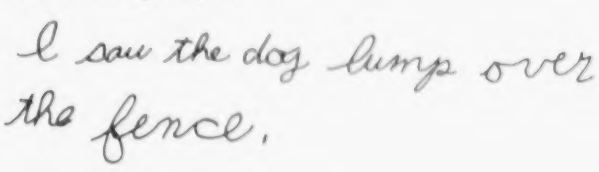


Figure 4-2.

Figure 4-3 demonstrates a seven-year-old child's attempts to copy the numbers "2," "7," and "9." The child was able to copy with a great deal of difficulty and unintelligibility. Only if we know what the task was can we appreciate the meaning of the effort (Myklebust, 1967).

Figure 4-3.

In Figure 4-4, the same child attempted to write the numbers "1" through "5" from dictation. This appeared to be an impossible task because there was no visual image to relate to the verbal commands for each figure.

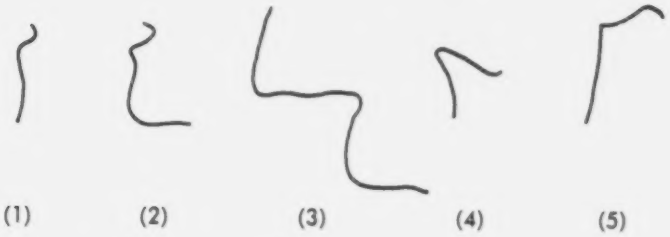


Figure 4-4.

Educators are interested in helping the student with a learning disability but often don't know what to do. Perhaps no area of spe-

cial education requires more interdisciplinary cooperation. The skills, knowledge, and techniques of psychologists, neurologists, pediatricians, plus all members of the educational staff may be required to provide an adequate program.

CHAPTER 5

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Developing a Teaching Program

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PROGRAM PLANNING

Program planning for the child with dysgraphia requires a description of the problem. As a teacher, you need to know whether the problems are purely dysgraphic or if other dysfunctions are involved.

The allied learning problems which occur with dysgraphia are most frequently in arithmetic, in visual-spatial relationships, and in nonverbal visual-motor functions. The arithmetic disturbance common to children with dysgraphia is threefold. They have difficulty writing numbers, aligning them properly, and understanding concepts related to space, distance, and time. On the other hand, many learn math facts quickly and can answer questions orally.

It is likely that the child with dysgraphia has learned quite a bit more than is evidenced in his or her written work. Depending upon the age of the individual and the severity of the dysgraphia, it may be necessary to use a method of output other than written language. Typewriters, word processors, calculators, and tape recorders are all acceptable alternatives. You should make smaller assign-

ments or allow more time to complete work. Parents should be allowed to take dictation for their child or write math assignments which the child has figured mentally or on a calculator. It may be possible for the child to organize math problems on lined or graph paper. If typing skills are developed, you may allow the student to bring a quiet, electronic typewriter into the classroom.

Be careful to avoid overloading these students. If the lesson is too long or too complicated, not only may they not profit from the instruction but their total well-being might be further disrupted.

The child is viewed not only in terms of a learning disability, but also through other facets of behavior. Social maturity, emotional adjustment, and acceptance of self and others should all be considered. Do not stress academic success alone. Keep clearly in mind the pervasiveness of the problem, even in those whose potential for learning remains above average. Hence, this approach is broad, inclusive, and dynamic. Only an approach of this type can be expected to meet the urgent challenge presented by this group of students who are dysfunctioning.

TEACHING BASIC SKILLS

Holding the Writing Utensil

Many children with dysgraphia do not know how to hold a pencil. They can observe others holding pencils correctly and try to manipulate their fingers to do the same but cannot imitate what they see. Some hold the pencil in both hands and try to write. Others refuse to touch writing utensils because they have experienced repeated failures. Those with less severe problems hold the pencil too close to the point or to the eraser. Others grip the pencil either too tightly or too loosely. If there are problems in the manipulation of crayons or pencils, try to teach correct grasp.

Primary size pencils and large crayons are easier to manipulate. Hexagonal crayons are helpful because the flat sides are easier to grip. Felt-tip pens are useful.

Don't let the students use short pencils. These force them to

grip too tightly, and their writing becomes jerky or small. Short pencils also cause the use of undue pressure, which brings about fatigue and frustration.

The pencil should be held above the sharpened part between the thumb and the middle finger with the index finger riding the pencil. As a reminder, mark the area of the pencil to be held with tape or paint.

For children with good verbal facilities, repeat the method of holding the utensil repeatedly until they can say it to themselves, thus helping the action to become automatic.

If there is a lack of good auditory skills and if kinesthesis seems to be the best modality for learning, ask the child to close both eyes while the fingers are molded into place. Guide the child's hand, using a firm grip. Encourage relaxation and use large sweeping movements initially.

Position of the Paper

Observe the way in which the child places the paper on the desk. Paper for manuscript writing (printing) should be placed parallel with the lower edge of the desk. Teach children how to move the paper up and away from the body as they work toward the bottom of the page. Paper for cursive writing is tilted at about a 60-degree angle to the left for right-handers and to the right for left-handers. Papers should be anchored to the desk for children who are hyperactive.

Posture

Children with learning disabilities often have poor writing posture. Some keep their heads too close to the papers. Others move constantly and thus slide their papers or cover their work with their arms so they cannot see what they are doing. Encourage good, upright sitting postures. Select appropriate chairs, tables, and desks. Both feet should be kept firmly on the floor. If the child has unusual

posture, such as a marked tilt of the head, it is wise to suggest a visual examination. Before a diagnosis of dysgraphia is made, ability to discriminate visually should have been evaluated.

Hand Movement Techniques

Teach the movement plan for the hand through verbal directions. While tracing on a figure, repeat rhythmic chants, such as "down," "across," and "up." This helps many students establish visual-motor integration and develop a smooth flow of writing. This depends upon the child's ability to comprehend the spoken word. It is not used if the child is frustrated with auditory stimulation. In this case, emphasize kinesthetic-tactile methods.

Erasures and Corrections

Erasures and corrections are small but significant problems to be considered when teaching children with dysgraphia. When they write, they often make mistakes but do not take time to correct them. Instead, they write over the partially erased work. As a result, the words they write are not clear. These children must see an accurate visual pattern of the letter if they are to improve; therefore teach them and encourage them to completely erase incorrect figures.

REINFORCEMENT TECHNIQUES

Stencils and Templates

Clip a stencil over the paper. Instruct the child to trace the cut-out edge with a finger and then repeat the movement with a pencil or crayon. Remove the stencil to see what was drawn. The child gets an accurate visual perception of the figure as well as a feeling of success. Indicate movement patterns on the stencil to help develop consistent sequences.

Tracing Folds

Fold pieces of paper into squares, rectangles, and triangles. Open the paper and ask the child to trace the folds with the tip of the index finger and then with a pencil. The tactile impression from tracing the fold is beneficial.

Tracing with Copy Paper

Draw figures on paper using heavy black ink. Fasten copy paper over the model figures so that the child can see the lines. Make certain there is enough light.

Dot-to-Dot

Draw one complete figure and an outline of the same figure by using dots. Ask the child to connect the dots and make a picture like the one that is finished. If the child can recognize numbers and knows them in sequence, write numbers by each dot to show the direction of the movements. It is helpful to use directional cues on letters and numbers until they are written automatically.

Teaching through as many senses as possible seems to work the best. Tracing letters with the finger, hearing the directions, and seeing the figure being drawn all contribute to an awareness of the task to be done.

All children, but especially those with learning disabilities, learn best through activity rather than sitting passively and being told or shown. Intensive repetition and practice may be needed to master writing skills. It is significant to note that those with dysgraphia seldom make errors writing their own names.

Figure 5-1 shows the sequence of lines needed to form the cursive letter "h." Learning in small segments helps to reinforce the sequence of motion necessary to create a given form. With needed motivation and rewards, this can be an effective learning technique for the child with dysgraphia.

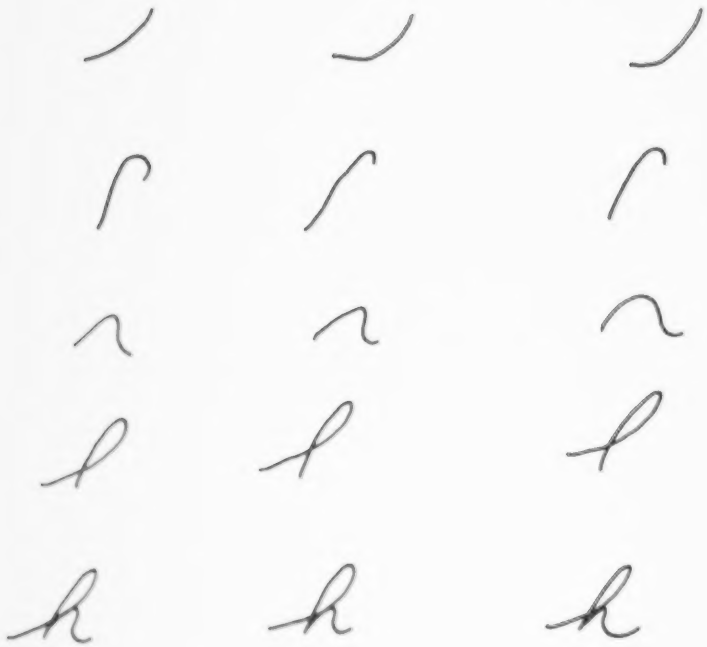

Figure 5-1.

"TEACHER, BE AWARE"

In addition to general sloppiness of written work, you may find other problems in the child's work. Be aware that they are all part of the student's inability to write and can be minimized with understanding and helpful teaching.

Punctuation

"Punctuation is a system of inserting various standardized marks or signs in written or printed matter in order to clarify the meaning and separate structural units" (Webster, 1963). Punctua-

tion is a system of symbols, and we are dealing with children having symbolic disorders. Thus, they may not be able to associate the mark with its name or to learn how and when it is used.

Determine whether the children know the names of the punctuation marks and whether they can differentiate them visually and use them properly. An instruction such as "Point to the period" is useful in ascertaining if they have associated the sign with its name.

Grammar

In high school, grammar and English are the most difficult subjects for students with learning disabilities. Learning the parts of speech, types of phrases or clauses, and grammatical rules assumes that the students can use symbols to talk about symbols. When they learn about nouns, they not only must comprehend and remember the definition but also must understand which words in our language do, in fact, represent a person, place, or thing. This is not an easy task for many children who have symbolic disorders. Use words or pictures to denote parts of speech.

Spelling

Spelling requires more auditory and visual discrimination, memory sequentialization, analysis and synthesis, and integration simultaneously than perhaps any other skill. Thus, it is evident that the majority of children with learning disabilities have deficits in spelling. Learning to read a word is necessary before attempting to spell it.

Typewriting

The question of typewriting is often raised when students are inferior writers. We hope to raise their writing to a level where they can communicate their personal and business needs by the use of writing, but beyond that point, typing is recommended. It is necessary to break down the motor patterns for typing, as it is for writing.

but the movements are less complex than those needed for cursive script. Electric typewriters require less pressure than manual machines. Some electronic typewriters are quiet and portable and can be taken into the classroom.

Writing and School Assignments

Modification of school assignments must be considered for those with deficiencies in the ability to write. Students should be encouraged to put forth their best efforts, but exceptions are made when necessary. Allow the students to go over their work, inserting punctuation, capitalizing, and correcting grammatical errors. When writing is deficient, oral questions can be given to determine whether information and concepts have been learned. Use multiple-choice and true-false formats for written tests. These students do poorly on essay assignments. Sometimes it is difficult to determine how much a student knows because the quality of the written work is so inferior.

When writing is slow but accurate, give the student a greater time allotment. A common practice is to ask the individual to take the examination with the class and complete it at a later time. Make additional exceptions, depending upon the extent of the involvement. Encourage optimum effort but avoid demands beyond a child's integrative capacities.

CHAPTER 6

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"Not Working to Ability"?

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When a student fails in school it can be devastating to both the child and the family. This is particularly true when the child seems bright and capable.

Early in their education, students are usually eager to do school work and thrive on the praise they receive. If all papers are returned marked "Sloppy—try harder" or otherwise covered with the teacher's red markings, children quickly become discouraged. They typically do try harder, but when this doesn't result in improvement, they learn to avoid doing written assignments. Undone work can't be criticized. Very early in an educational career, the child with dysgraphia may choose not to write because of the seeming impossibility of the task. If left undiagnosed, the problem only gets worse as self-esteem and confidence evaporate.

A typical school report might be one of the following:

"Does not use time wisely."—The use of time may be a significant issue to parents and teachers of the child with dysgraphia or related problems. The concept of time management relates to the ability to see spatial relationships and create logical sequences. The child may not comprehend the meaning of the time requirements

for a task and will surprisingly run out of time long before running out of work.

Until the ability to budget time is learned, parents and teachers can help. Short work periods with a manageable quantity of work allow feelings of satisfaction. The parent can help plan a time line for larger projects which the child, with gentle reminders and encouragement, can follow. Keeping the child's speed and organizational ability in mind, allow plenty of time in short work periods to complete the project.

"Homework incomplete."—Several things may be happening here. Poor time management may have left the child with more homework than time. Too much homework causes fatigue and depression. Perhaps the child just gave up with the realization that the work was illegible even to him or her. Again, help with budgeting time so that the job can get done in several short sessions rather than one long, fatiguing one.

"Not working to ability."—You need to explore other means of testing the students' knowledge. Oral exams, multiple-choice tests, true-false tests, and typing skills are all good alternatives. These students may well be learning to ability but cannot express themselves in the same ways as other students.

If the students see themselves as poor students due to past failures, they may actually be working to their abilities as they understand them. Students who are always criticized for the quality of their work lose self-confidence and begin to feel stupid. Helping them to overcome these feelings through patient understanding of their learning difficulties will restore their self-confidence. As they feel better about themselves, they begin to set higher goals for themselves.

RETENTION

Because of the inferiority of a student's written products, you may determine that the child has not learned. Retention may be recommended. Dysgraphia is not a reason for retaining a student, as the handwriting probably won't improve much next year, either.

The degree of maturity and the allowance for individual needs should determine the grade placement. If the only area of deficiency is writing ability, retention is certainly not indicated. Rarely do these students fit into average groupings, and mere repetition of a year's work does little to meet their needs. A person with learning difficulties must be made to work on the specific problem, but that must not affect everything that has to be done.

WRITING CAN BE FUN

Daily teaching in short, frequent practice periods has more of an emotional and educational impact. If it is exciting or fun, learning is quicker and seen as less of an effort. A computer whiz may get valuable writing practice putting a computer program on paper. There are lots of children's games which are fun and require the players to keep notes. Writing original captions for pictures from magazines or comics is interesting and creative and not viewed as handwriting practice. Keeping score of an athletic event on a score sheet is fun for the young sports enthusiast. Let the child write your shopping list or keep a diary. The creative parent and teacher can find many ways to create handwriting practice which is seen as fun rather than torture.

Like most of us, students with dysgraphia learn better if they build a pattern of successes. This is accomplished by succeeding at small tasks. Success brings praise and the desire to accomplish even more. As the students accomplish greater quantities of work successfully, they feel better about themselves as students and as persons.

CHAPTER 7

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Creating Successes

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COLLEGE OR VOCATIONAL TRAINING?

Many success stories indicate that college is not only a possibility but also a necessity for some. Nationwide, 1.5 percent of the university population consists of students with learning disabilities. Many universities provide specialized help for these individuals. We are all aware of the many services available to those with hearing, visual, and other physical impairments. The student with dysgraphia, because of an inability to write, is indeed at a disadvantage. Colleges and vocational schools refer the students with severe dysgraphia to their vocational rehabilitation departments, where they will be eligible to use typists and readers. Since they will be treated as word blind, the students must learn English well enough to dictate.

Individuals with dysgraphia tend to outgrow or make adjustments for their deficiencies. They may have developed an exceptional ability to remember and calculate mentally. Developing dictating and typing skills is another way to bypass deficiencies.

For those students expressing disinterest in a four-year college

curriculum, a vocational or pre-vocational school may be preferred. Greater success may be achieved in an activity-oriented, hands-on learning environment.

Young people with learning disabilities should not be sold short. Their natural abilities and fighting spirits allow them to go to college and achieve.

Some colleges waive entry requirements and provide alternate programs. For a listing of those colleges, contact:

Association for Children with Learning Disabilities
5221 Grace Street
Lower Level
Pittsburgh, PA 15236

PRAISE GOES A LONG WAY

Remember that children with dysgraphia must work infinitely harder to accomplish a written task than other children do. Depending on the degree of the disorder, they may be able to write perfectly well for a paragraph or two before the work becomes unintelligible. This is not due to laziness or lack of interest. They should be praised for what they have done well. Praise, approval, attention, smiling, and touching are all important rewards. If a child does not respond to these social rewards, give tangible rewards such as a new toy, a lollipop, etc. The ultimate goal is to develop self-reinforcement. The rewards should be consistent and immediate.

Praise goes a long way. The following compliments are used successfully by educators for all students and can be especially rewarding when used with the child experiencing learning difficulties:

- That's really nice.
- Wow!
- That's great!
- I like the way you are working.

- Keep up the good work.
- That's quite an improvement.
- Much better.
- Keep it up.
- Good job!
- You really outdid yourself.
- This kind of work pleases me very much.
- Congratulations! You got all your work done.
- Terrific!
- Now you've got the hang of it.
- Exactly right.
- Super!
- Superior work.
- You've got it now.
- Out of sight!
- Far out.
- That's coming along nicely.
- Beautiful!
- I am very proud of the work you are doing today.
- Excellent work.
- Marvelous!
- Right on.
- My goodness. How impressive!
- You're on the right track now.

And a really special one for the child with dysgraphia or any child with a learning dysfunction:

- It looks like you put a lot of work into this.

Remember at all times that these students use lots of effort to produce at the level that others do easily.

CASE STUDY

Alan had done well in school until third grade. He always seemed uncoordinated and unathletic, but academically he had been keeping up with his class. In third grade, the quantity of written work increased as well as a demand for proper English expression. Assignments were to be completed in cursive writing rather than printing. He began to fall behind, eventually avoiding written work altogether. He became nervous and began chewing his eraser, eating the corners of his worksheets, and developing a slight head tic. His teacher became concerned and scheduled a conference with his parents and the school psychologist.

Everyone was concerned about the change in his work and attitude, but no one recognized the need for a medical or psychological evaluation. The teacher was particularly concerned about the eraser and paper chewing. Alan was asked to stop this annoying habit, which he was able to do, but his nervousness only increased.

Somehow he managed to survive elementary school, even though his academic achievement was minimal. He was obviously bright and had a vast store of knowledge which he could relate orally. His parents requested that his teachers test him verbally, but no teacher ever took the time.

Junior high school was a disaster. Teachers overlooked the content of his written assignments and criticized the writing, neatness, and general appearance. The teachers excluded him from most activities because they did not feel that he had the self-discipline to do any job. Their attitude seemed to be that if he would put even the minimal effort into his work, it would be satisfactory. Since he was apparently apathetic, and it was later decided that he was marginally retarded, he was best ignored.

He enjoyed the social contacts and had many friends. His physical coordination was improving, and he developed into a competitive baseball player. This increased his self-esteem every-

where but in the classroom. Writing legibly was still impossible, and he failed to complete any written assignments. Teachers described him as friendly and pleasant but lazy and undisciplined in his study habits. Alan failed both seventh and eighth grades. Summer school successes allowed him to pass each grade, but his self-esteem as a student reached a new low.

Alan's parents asked that the school evaluate him. It was agreed that this was a good idea, but even by the end of eighth grade, the evaluation had not yet been scheduled.

With high school on the horizon, his parents finally realized that the school system was not dealing effectively with whatever the problem was. They took him to a pediatrician who determined, through testing and an interview, that Alan had dysgraphia. He was of above average intelligence, personable, and able to express himself well verbally. His handwriting was quite deficient, as was his ability to compute mathematically on paper. Conversation with Alan showed him to be knowledgeable and able to do mathematical calculations mentally with ease.

It was recommended that he be allowed to display his knowledge in ways other than handwritten. When written work might be required in class, Alan should be allowed more time to complete the assignment.

Armed with the knowledge that he was not retarded or emotionally disturbed, Alan entered high school. His teachers were informed of his disability and told how to most effectively deal with it. They were all cooperative, and for the first time since second grade, Alan was a success at school. His grades rose from failing to above average. He still can't write very legibly, but he is willing and is allowed to express his knowledge in other ways. Finally, at age 14, Alan feels good about himself.

The importance of recognizing and treating a learning disability cannot be overemphasized. No child can withstand the experience of constant failure without becoming terribly discouraged. Children develop some cover to draw attention away from their inadequacies. Some common covers are having a "don't care" attitude, becoming a show-off, or simply doing something other than the

impossible task. The difference between eventual success and dropping out, juvenile delinquency or breakdown, seems to lie in the quality of help received, how much pressure is applied by the school and home, and whether some special skill is developed.

Alan compensated for his inability to write by learning how to type and by developing a very personable, agreeable demeanor. He was so likeable that elementary teachers tended to minimize the seriousness of his writing handicap.

SUMMARY

"Dysgraphia" is a term applied to the symptom of writing difficulty. It is estimated that there is at least one student with dysgraphia in every classroom in the United States. Unfortunately, many of these students are misdiagnosed or simply overlooked. In a society in which reading and writing skills are necessities, this is devastating for thousands of youngsters and their families.

Handwriting skills, even in individuals with dysgraphia, do improve with maturity and practice. Motivation is a big issue with these children. The allowance of time, the appreciation of the extra energy needed to write, and the rewards of the endeavor must be taken into consideration.

If children experience repeated failure and constant criticism for the quality of their written product, they become discouraged. They lose self-confidence and often become behavior problems. It is estimated that from 70 to 80 percent of juvenile delinquents of average or above intelligence have learning disabilities.

Parents and teachers of children with dysgraphia must become aware of the difficulties and offer patience, understanding, and alternatives to the writing requirements. The children can then mature with no erosion of self-esteem.

Our children are too valuable to receive anything but the best we can offer educationally and personally. Alert teachers and parents will recognize the child with a handwriting dysfunction early and allow that child to grow and learn in a way that is compatible with his or her learning capabilities.

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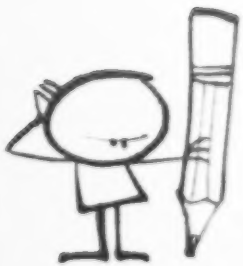

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